STREBEL
S-AF XL

Floor standing high efficiency boiler

User Manual

STREBEL HEATING TECHNOLOGY

2015-06-15 v1.0

Dear Client,

Thank you for purchasing this condensing appliance, a technically advanced and high quality product, offering high efficiency and extremely low pollutant emissions and therefore complete respect of the environment, designed to meet all your needs for comfort at low operating costs.

Please read this manual with care before using the appliance, and observe in particular all WARNINGS and SAFETY REGULATIONS.

We also recommend that the appliance is inspected by Technical Service personnel, specially trained in servicing this type of appliance using exclusively original spare parts when necessary.

This manual is an integral part of the appliance and as such must be conserved with care for future consultation or transfer to another Owner or User.

Kind regards,

Company Management

WARRANTY

S - AF XL appliances are covered by a SPECIAL WARRANTY as of the date of authorisation by the Technical Services departments, a list of which is available on the website www.bongioannicaldaie.it.
On delivery, the adhesive labels with bar codes supplied in the document envelope should be attached to the specific certificates.

CONFORMITY

The **S - AF XL** appliances comply with the following:

- Gas directive 2009/142/EC
- Efficiency Directive 92/42/EEC
- Low voltage directive 2006/95/EC
- Electromagnetic compatibility directive 2004/108/EC
- Energy Efficiency ☆☆☆☆
- "Condensing" classification
- NOx Class 5 (< 70 mg/kWh)

CE

For the serial number and year of manufacturer, refer to the technical data plate.

Company Management

The appliance must be installed by qualified personnel in conformity with current Technical Standards and national and/or local legislation.
All safety, installation and maintenance instructions must also be strictly observed, as stated in this manual.

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SAFETY WARNINGS AND REGULATIONS

- After unpacking the appliance, ensure that all parts are intact and complete as per the supply specifications, and if any non-conformities are found, contact the Representative that sold the appliance.
- The appliance must be installed by professionally qualified personnel, in conformity with current national and local standards and the instructions in the manual supplied with the product.
- The appliance must only be used as envisaged in the design. The manufacturer declines all liability for physical injury or damage to animals or objects caused by errors in installation, adjustments, maintenance or improper use of the appliance.
- In the event of water leakage, disconnect the appliance from the electric power mains, shut off the water supply and promptly notify the Technical Services department or other professionally qualified personnel.
- Periodically check that the hydraulic system operating pressure, in cool conditions, is approx. 2 bar. Otherwise contact the Technical Services department or other professionally qualified personnel.
- In the event of prolonged disuse of the appliance, the following procedure must be observed:
  - Set the appliance main switch and the main system switch to "OFF".
  - Shut off the fuel and mains water valves.
- This manual is an integral part of the appliance and consequently must ALWAYS accompany the appliance, also in the event of sale to another Owner or User or transfer to another system. The manual must be kept with care and in the event of damage or loss, another copy may be requested from the Technical Services department.
- **It is recommended to service the appliance at least once a year.**

PROHIBITED ACTIONS

- **IT IS STRICTLY PROHIBITED** to allow children or disabled persons to change settings on the appliance without assistance.
- **IT IS STRICTLY PROHIBITED** to activate electrical devices or equipment such as switches, telephones, household appliances etc. if smells of fuel or uncombusted fuel are detected. In this case:
  - Open doors and windows to ventilate the room.
  - Close the fuel shut-off valve.
  - Arrange for prompt intervention of the Technical Services or other professionally qualified personnel.
- **IT IS STRICTLY PROHIBITED** to touch the appliance with bare feet or wet parts of the body.
- **IT IS STRICTLY PROHIBITED** to perform technical interventions or cleaning before disconnecting the appliance from the electrical power mains and setting the main system switch and main appliance switch to "OFF".
- **IT IS STRICTLY PROHIBITED** to modify safety devices or control devices without prior authorisation and instructions from the appliance manufacturer.
- **IT IS STRICTLY PROHIBITED** to pull, detach, or twist cables coming out of the appliance, even when disconnected from the electrical power mains.
- **IT IS STRICTLY PROHIBITED** to seal off or partially obstruct the ventilation outlets of the installation room and the appliance (if present). The ventilation outlets are essential to ensure efficient combustion.
- **IT IS STRICTLY PROHIBITED** to obstruct the condensate drain outlet.
- **IT IS STRICTLY PROHIBITED** to leave containers of flammable substances in the same room as the appliance.
- **IT IS STRICTLY PROHIBITED** to dispose of packaging into the environment as this constitutes a potential source of danger. It must therefore be disposed of in accordance with current legislation in the place of use.

DESCRIPTION

The aluminium heating units in the range **S - AF XL** are condensing heat generators, designed to heat rooms, and in combination with a storage tank, for the production of domestic hot water.
They comprise:
- an aluminium heat exchanger, with low water content and generously sized exchange surface to optimise energy efficiency and heating output;
- a full pre-mix microflame burner in stainless steel, to guarantee high modulation ratios, combustion stability and low pollutant emissions (NOx Class = 5);
- a variable speed blower, required for air/gas modulation and mixing;
- a combustion circuit, which can be “type C” (room-sealed) or “type B” (open-flued), with respect to the installation environment, and on the basis of the flue exhaust configuration on site;
- command-control electronics, which if equipped with outside sensor enables adjustment of the supply temperature on the basis of the outside temperature. The appliance thus only provides the heat effectively needed by the utility, avoiding energy waste. The unit is fitted with self-diagnostics with a display of the error codes and operating parameters at the time of the fault, thereby simplifying tasks for the Technical Services department.

Also, during periods of prolonged disuse or holidays, the appliance remains protected by the Anti-freeze Function, which is activated automatically when the supply temperature falls to 5°C and shuts off when it returns to 15°C. Obviously the gas and electrical mains supplies must be active during these periods.
The design phase adopted specific solutions to:
- obtain a constantly optimal air/gas mix;
- minimise dispersions;
- reduce noise levels to a minimum.

The **S - AF XL** heating units are designed for connection to 0-10 V DC controls and for operation in cascade, in sets of up to 6 units, and can be equipped with various system accessories, such as the mix bottle or water shut-off valve, and the ISPESL unit, which all simplify the work of the installer and comply with compulsory italian legal requirements.

DEVICES

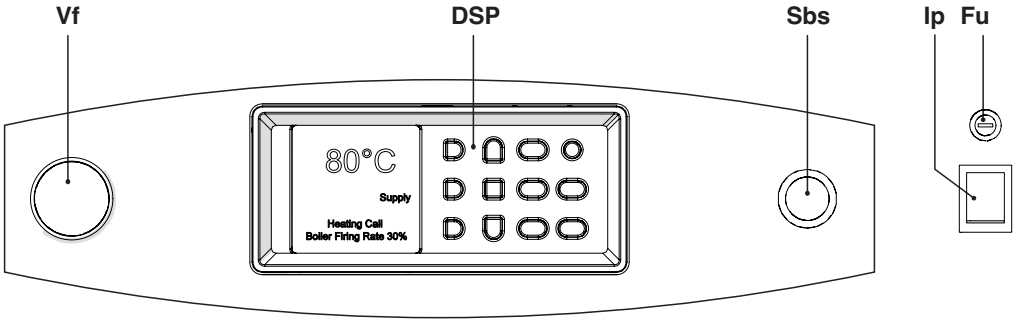
S - AF XL appliances are equipped with the following safety, control and adjustment devices:

- Sensor on the appliance heat exchanger, to ensure thermal cut-out when the temperature reading exceeds the maximum admissible value. This is reset manually via the DSP keypad.
- Water pressure sensor: this intervenes when the hydraulic circuit pressure falls below 0.8 bar.
- Pressure switch: this intervenes when the pressure difference between the flue outlet and air intake exceeds 3 mbar.
- Flue safety sensor: this intervenes when the flue temperature is too high.
- Gas pressure switch: this intervenes if the supply gas pressure falls below 14 mbar.
- Hydraulic circuit diagnostics to protect the heating unit against:
  - temperature overload, by checking the difference in temperatures on supply and return (ΔT);
  - inadequate water circulation in the heat exchanger, checking the difference in temperatures between the heat exchanger sensor and supply sensor.

⚠ WARNING

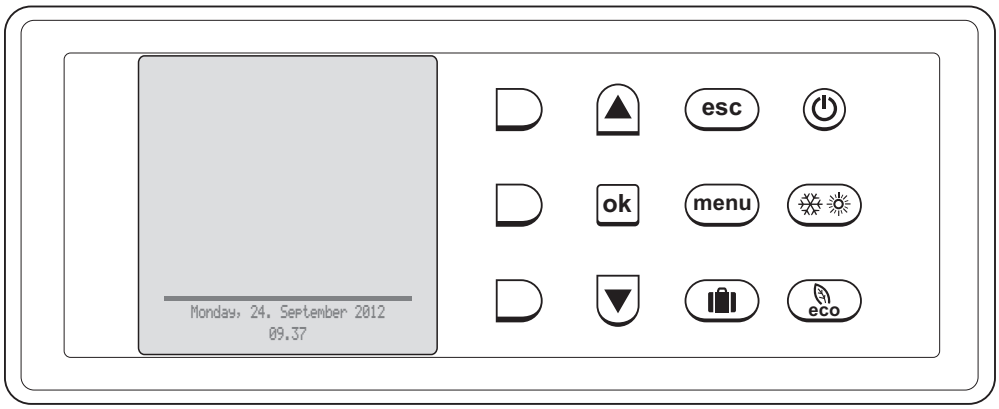
- If a safety devices trips, this means that there is a potentially hazardous appliance malfunction. In this case contact Technical Services as soon as possible for assistance.

CONTROL PANEL

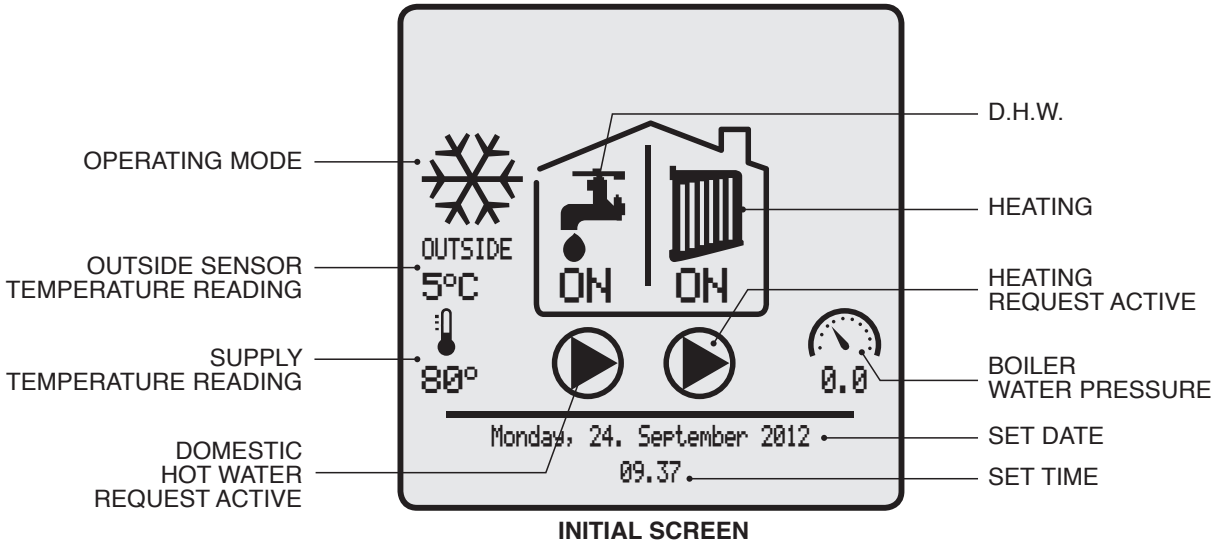


Sbs Block indicator light due to intervention of safety devices
DSP User interface with display
Ip Main switch with indicator light
Fu Main fuse (10A)
Vf Flame screen

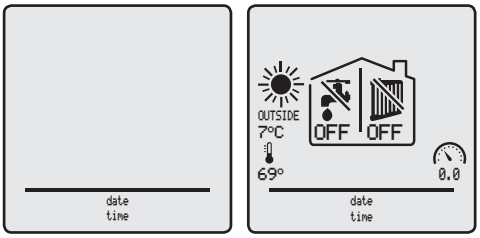
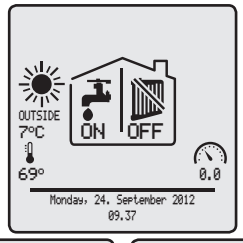
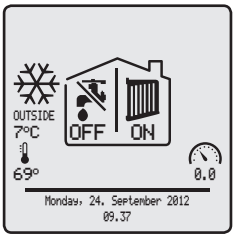
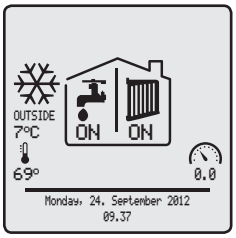
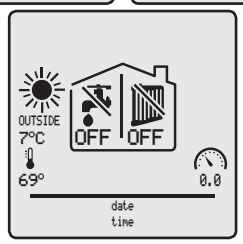
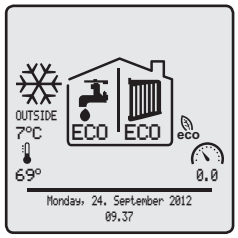
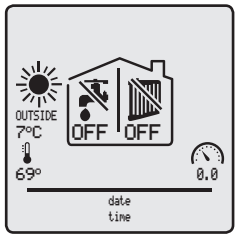
DSP

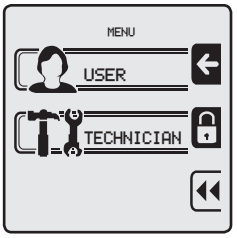
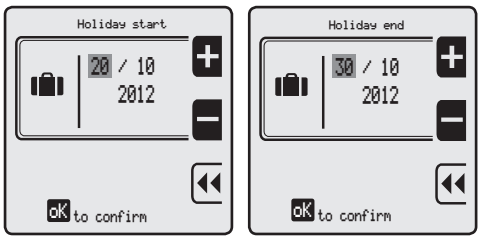
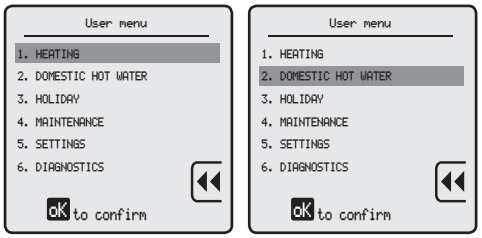
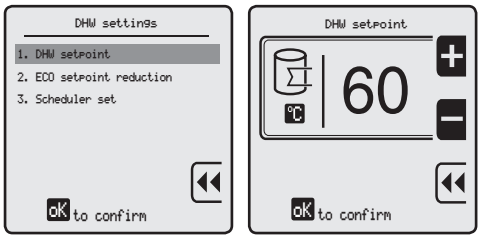
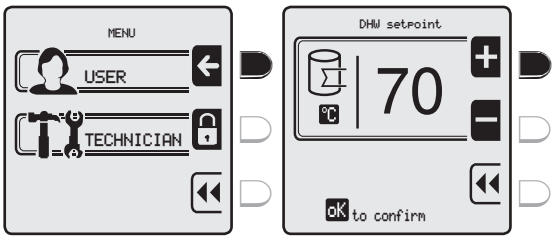
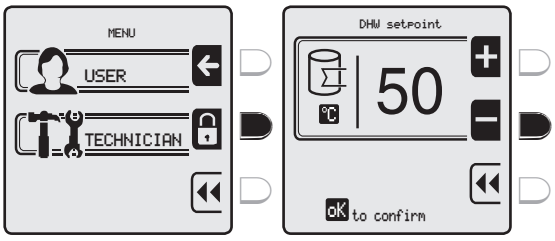


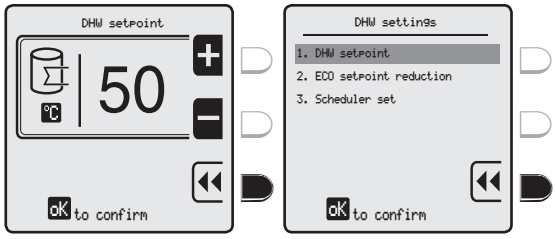
DESCRIPTION OF SYMBOLS ON DISPLAY



INITIAL SCREEN

Key	Description offunction	Display
	ON/STAND-BY **STAND-BY:** This shuts down the appliance, inhibiting the use of DSP keys **ON:** This enables start-up of the appliance, enabling use of DSP keys	
	OPERATING MODES **SUMMER:** DHW production only **WINTER:** heating only or heating and DHW **NONE:** no heating or DHW Anti-freeze or “Manual Test” function active	   
	ECO - Manual This reduces, by the set value, the temperature of domestic water supply and heating water (energy saving mode)	
	ESC Interrupts the current action and returns to the initial screen	

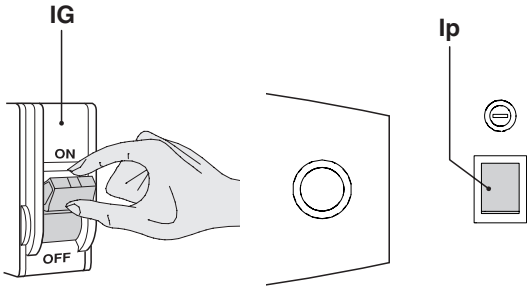
Key	Description offunction	Display
menu	**MENU** Enables display of the page for menu selection (USER or TECHNICIAN)	
	HOLIDAY This enables entry of the holiday dates (start/end) and values for the supply of domestic hot water and heating water during this period	
	UP Enables the user to scroll up through the lines on screen **DOWN** Enables the user to scroll down through the lines on screen Keep pressed to speed up the scrolling action.	
ok	**OK** Enables: - access to the selected line of the menu or sub-menu - confirmation of a newly modified value	
	RED (at top) Enables: - access to the USER menu - increases to the value to be modified Keep pressed to speed up the action.	
	RED (intermediate) Enables: - access to the TECHNICIAN menu - decreases to the value to be modified Keep pressed to speed up the action.	

Key	Description offunction	Display
	RED (at bottom) Enables return to the selected line without saving/ storing the modified data. Keep pressed to speed up the action.	

IGNITION AND SHUTDOWN

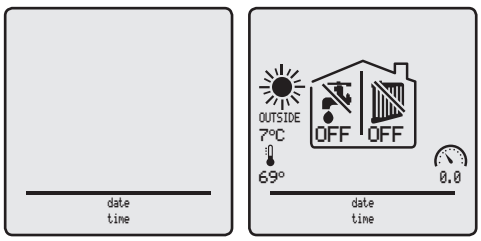
The initial commissioning of the appliance must be performed by the Technical Services, after which the appliance can operate automatically.
The system supervisor can turn the appliance on and off as follows:

- Turn on the heating unit by setting the main system switch (IG) and the main appliance switch (Ip) to “ON”.



- The display returns to the stand-by screen.

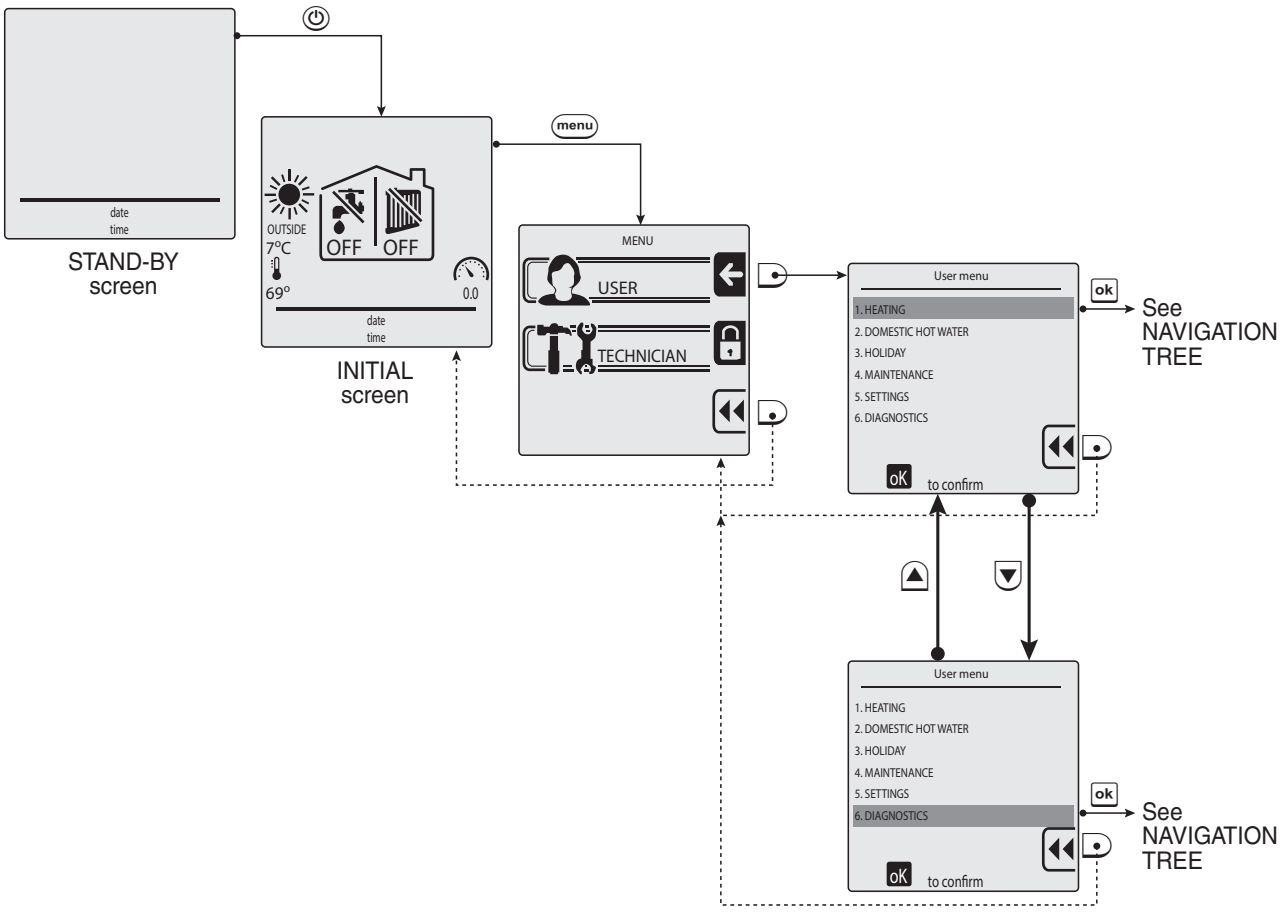
- Press ⏻ to activate the keypad for the DSP.



MENU NAVIGATION TREES AND PROCEDURE

USER menu navigation tree and procedure

The appliance is supplied in the configuration STAND-BY.
To scroll through the screen menus, use the keys shown in the diagram below.



USER MENU	Keys	Sub-menu	Keys	Lines	Keys	Factory settings	Field
1. HEATING	ok	1. CH temperature/OTC Set	ok	1. CH temperature	ok	*75°C*	*20 - max. absolute T. (*)*
▼ ▲			▼	2. Outside temperature for CH off	ok	*OFF*	*OFF / 7 - 30°C*
	▼	2. ECO setpoint reduction	ok	--->	--->	*50°C*	*0 - 50°C*
	▼	3. Scheduler set	ok	1. Enable/disable scheduler	ok	*Enabled*	*Enabled/ disabled*
			▼	2. Scheduler settings	ok	*Monday*	*week days*
2. DOMESTIC HOT WATER	ok	1. DHW setpoint	ok	--->	--->	*80°C (**)*	*35 - 85°C*
▼ ▲	▼	2. ECO setpoint reduction	ok	--->	--->	*20°C*	*0 - 50°C*
	▼	3. Scheduler set	ok	1. Enable/disable scheduler	ok	*Enabled*	*Enabled/ disabled*
			▼	2. Scheduler settings	ok	*Monday*	*week days*
3. HOLIDAY	ok	1. CH holiday setpoint	ok	--->	--->	*20°C*	*20 - max. absolute T. (*)*
▼ ▲	▼	2. DHW holiday setpoint	ok	--->	--->	*80°C (**)*	*30 - 85°C*
4. MAINTENANCE	ok	1. Service information	ok	--->	--->	*read only*	
▼ ▲	▼	2. Service due date	ok	--->	--->	*read only*	
5. SETTINGS	ok	1. Select Language	ok	English / Italiano	ok	*Italiano*	*English/ Italiano*
▼ ▲	▼	2. Select Units	ok	Fahrenheit / Celsius	ok	*Celsius*	*Fahrenheit/ Celsius*
	▼	3. Set date	ok	--->	--->	*day / month / year*	
	▼	4. Set time	ok	24 hour / 12 hour	ok	*hours : minutes*	
	▼	5. Restore factory settings	ok	--->	--->	*OK to reset*	
6. DIAGNOSTICS	ok	1. Boiler information	ok	*read-only display of set parameters and values*			
	▼	2. Lockout history	ok	*read-only display of lockout/fault history*			

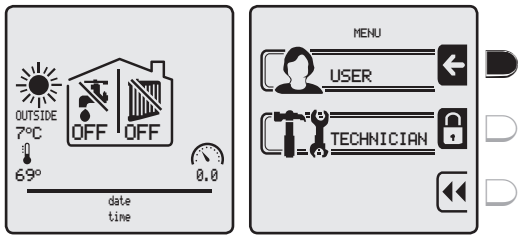
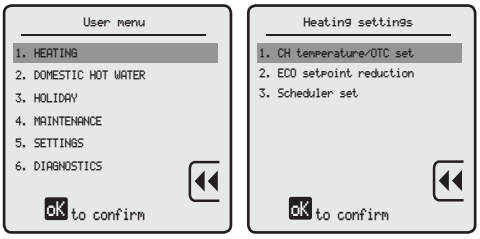
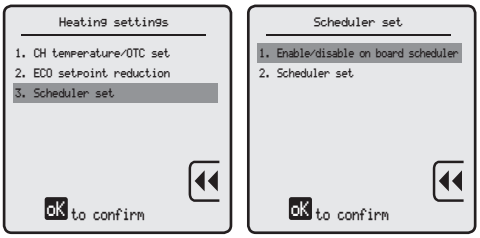
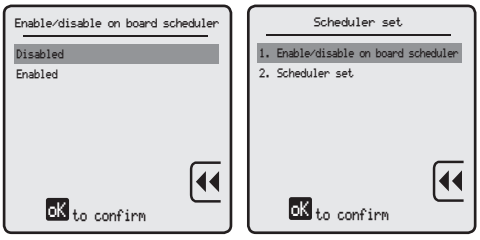
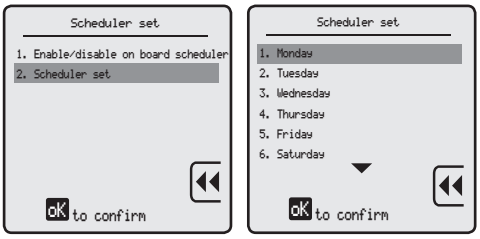
(*) Maximum absolute temperature set at point "**1.2.1**" of the technician menu.
(**) - If "**2.5 TYPE OF REQUEST**" of the Technician menu = "Contact" then "Factory setting" = 80°C with "Field" = 30 - 85°C.
- If "**2.5 TYPE OF REQUEST**" of the Technician menu = "Sensor" then "Factory setting" = 60°C with "Field" = 10 - 65°C.

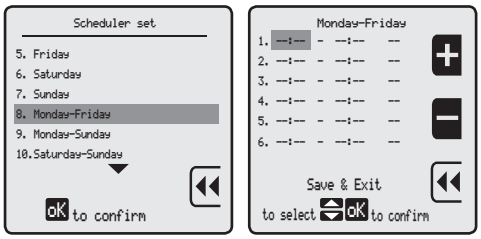
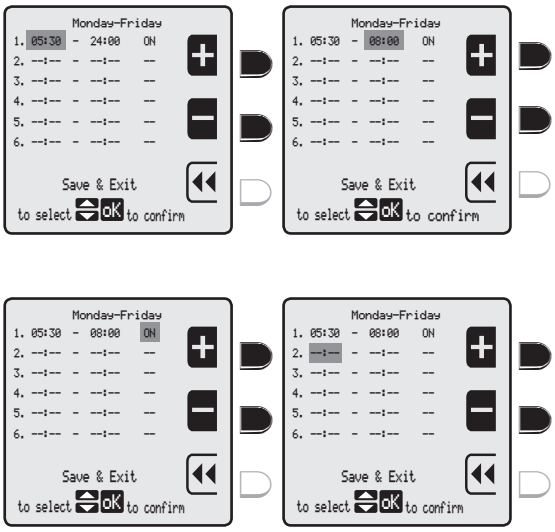
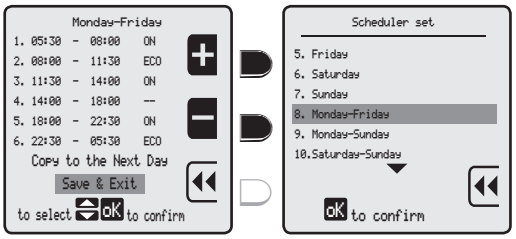
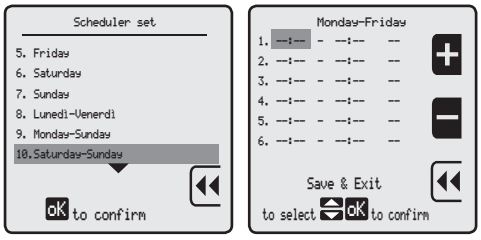
KEY TO THE USER MENU LINES

Ref. menu line	Line title	Meaning
1. HEATING		
1.1.1	CH temperature	Entry of setpoint of supply temperature (heating)
1.1.2	OTC set	Entry of setpoint of outside temperature for automatic switchover to "Summer mode"
1.2	ECO setpoint reduction	Entry of value to reduce temperature on supply in "energy saving" mode (day or night time)
1.3.1	Enable/disable on board scheduler	Enable or Disable implementation of the "heating time bands" set for the various week days
1.3.2	Scheduler set	Settings of the "heating time bands" applied for the various week days
2. DOMESTIC HOT WATER		
2.1	DHW setpoint	Entry of the setpoint for DHW temperature
2.2	ECO setpoint reduction	Entry of value to reduce temperature of DHW in "energy saving" mode (day or night time)
2.3.1	Enable/disable on board scheduler	Enable or Disable implementation of the "DHW production time bands" set for the various week days
2.3.2	Scheduler set"	Settings of the "DHW production time bands" applied for the various week days
3. HOLIDAY		
3.1	CH holiday setpoint"	Entry of the setpoint for supply temperature during the holiday period.
3.2	Instant DHW setpoint	Entry of the setpoint for DHW during the holiday period.
4. MAINTENANCE		
4.1	Contact info	Display of services contact phone number
4.2	Service due date	Display of date for next maintenance due
5. SETTINGS		
5.1	Select Language	Selection of language (English or Italian)
5.2	Select Units	Selection of units of measurement (Celsius or Fahrenheit)
5.3	Set date	Entry or modification of current date
5.4	Set time	Selection of 12 or 24 hour format - Entry or modification of current time
5.5	Restore factory settings	Restores factory settings
6. DIAGNOSTICS		
6.1	Boiler information	Display of boiler status and temperature readings To display, selectthe message, press ok and view the values, scrolling through items by means of the arrows ▼ ▲
6.2	Lockout history	Display of the error list.

SCHEDULER SETTINGS

The system also envisages the option of setting time bands during which the heating unit is set to operate, if there is a demand for heat, and those during which it remains off, or in ECO mode when fitted with an outside sensor.
There is a maximum of 6 programmable time bands within 24 hours, each of which must be identified by a start time (ON), and end time (OFF). The minimum interval between each time is half an hour.

Key to press	Description	Display
menu	to display the MENU screens	
	to enter the USER MENU	
ok	to select "1. HEATING"	 User menu 1. HEATING 2. DOMESTIC HOT WATER 3. HOLIDAY 4. MAINTENANCE 5. SETTINGS 6. DIAGNOSTICS ok to confirm Heating settings 1. CH temperature/OTC set 2. ECO setpoint reduction 3. Scheduler set ok to confirm
	or	
▼	to select "2. DOMESTIC HOT WATER"	
ok	NOTE: the scheduler setting procedure is the same for both functions.	
▼	to select "3. Scheduler set"	 Heating settings 1. CH temperature/OTC set 2. ECO setpoint reduction 3. Scheduler set ok to confirm Scheduler set 1. Enable/disable on board scheduler 2. Scheduler set ok to confirm
TWICE		
ok	to confirm and access the selected line	
▲ ▼	**to select Enabled or Disabled**	 Enable/disable on board scheduler Disabled Enabled ok to confirm Scheduler set 1. Enable/disable on board scheduler 2. Scheduler set ok to confirm
ok	to confirm the selection and return to line “1. Enable/ disable on board scheduler"	
	CAUTION: if the selection is DISABLED, the scheduler settings are memorised but not enabled.	
▼	to select "2. Scheduler set"	 Scheduler set 1. Enable/disable on board scheduler 2. Scheduler set ok to confirm Scheduler set 1. Monday 2. Tuesday 3. Wednesday 4. Thursday 5. Friday 6. Saturday ok to confirm
ok	to confirm and access the selected line	

Key to press	Description	Display
▲ ▼ ok	to select the single day or group of days in the week to confirm and access the selected line	
+ OR - ▼ ▼ ▼	to set the “start” time of the first band to set the “end” time of the first band to select the operating mode of the first time band, from ON, ECO or -- (boiler OFF) to go to the second time band To enter the settings, proceed in the same way as with the first band. NOTE: the time entry procedure is the same for all selected time bands.	
▼ ok	to select “Save and exit” or “Copy to the Next Day” (if the user wishes to copy the current settings to the next day) to save the settings made and return to the line of the single day or group of week days selected previously	
▲ ▼ ok	to select the day or days remaining and set the required time bands to confirm and access the selected line NOTE: the time entry procedure is the same for all selected time bands.	

USE - SYSTEM SUPERVISOR

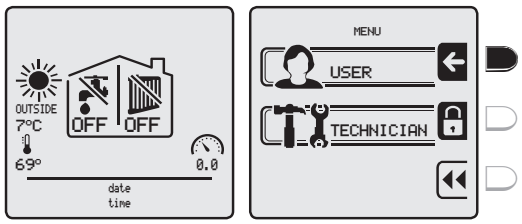
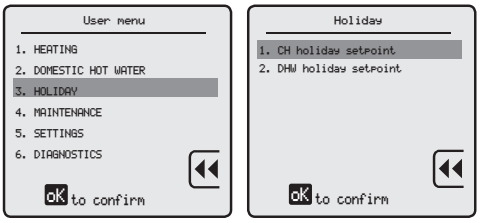
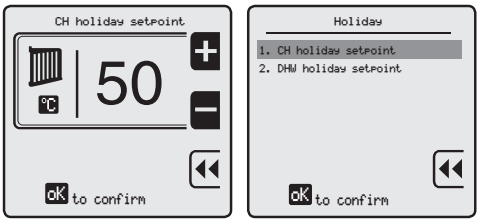
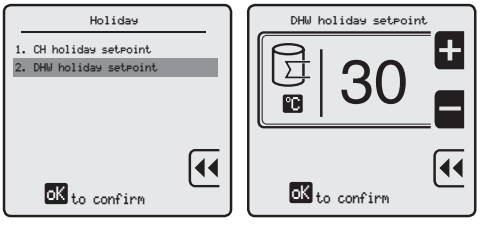
TEMPORARY SHUTDOWN OR HOLIDAY SCHEDULE

This function enables a reduction in the operating regime of the heating unit in the case of temporary absences, weekends, holidays and above all automatic restart after the set time interval.

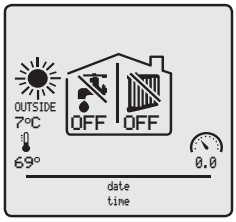
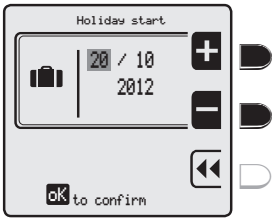
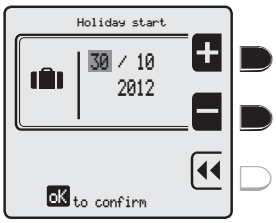
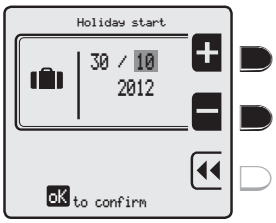
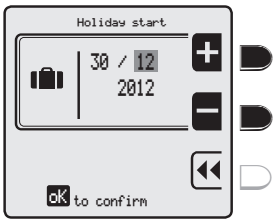
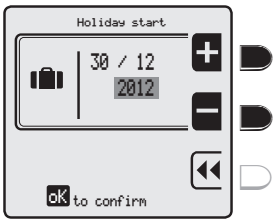
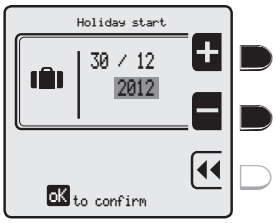
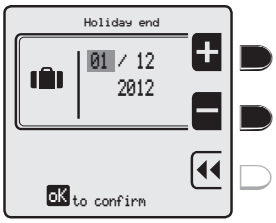
⚠ WARNINGS

- During the holiday period, it is essential to leave the electrical and gas mains supplies to the appliance powered, to ensure correct operation.

The supply temperatures for the heating system and/or production of domestic hot water, must be set as described below:

Key to press	Description	Display
menu	to display the MENU screens	
	to enter the USER menu	
▼ TWICE	to select "3. HOLIDAY"	 User menu 1. HEATING 2. DOMESTIC HOT WATER 3. HOLIDAY 4. MAINTENANCE 5. SETTINGS 6. DIAGNOSTICS ok to confirm Holiday 1. CH holiday setpoint 2. DHW holiday setpoint ok to confirm
ok	to confirm and access the selected line	
ok	to select "1. CH holiday setpoint"	
+ OR −	to set the required value	
ok	to confirm the settings and return to line “1. CH holiday setpoint"	
▼	to select "2. DHW holiday setpoint"	
ok	to confirm and access the selected line	
+ OR −	to set the required value (only in the case of storage tanks with sensor) (*)	
ok	to confirm the settings and return to line “2. DHW holiday setpoint"	

(*) In the case of storage tanks with thermostat, take care not to set an excessively low value, as this could cause continuous requests for domestic hot water.

Key to press	Description	Display
esc	to return to the initial screen	 
	to display the “Holiday start” date	
OR	to set the holiday start day	
	to select the month	 
OR	to set the month	 
	to select the year	
OR	to set the year	 
ok	to confirm the settings made and enter the "Holiday end" screen.	
	NOTE: to make the settings for the day, month and year of the holiday end, follow the same procedure as described for “Holiday start”.	

MAINTENANCE

Note that it is a COMPULSORY LEGAL REQUIREMENT THAT THE BOILER SUPERVISOR must arrange for PERIODIC MAINTENANCE and COMBUSTION EFFICIENCY MEASUREMENTS to be performed by PROFESSIONALLY QUALIFIED PERSONNEL.

The Technical Services department can fulfil this legal requirement when necessary.

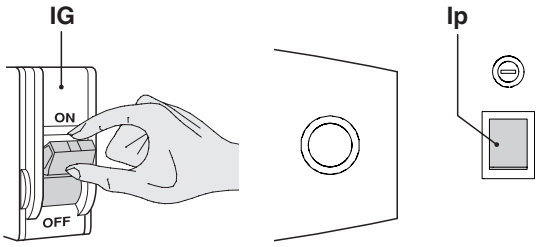
PERIODIC MAINTENANCE guarantees:
- Increased safety
- Reduced operating costs
- Extended lifetime of the boiler
- The reassurance of not receiving considerable penalties in the event of inspections.

ROUTINE CLEANING

Internal cleaning of the appliance and removal of combustion residue from the exchange surfaces are operations required **at least once a year**, to be performed by professionally qualified personnel.
This is an essential condition to reduce consumption, pollutant emissions and to keep the stated efficiency and reliability of the boiler over time.

Before cleaning:

- Set the main switch (IG) of the system and the main appliance switch (Ip) to “OFF”
- Close the fuel shut-off valves.



EXTERNAL CLEANING
The outer casing should be cleaned with cloths dampened with water and detergent. In the case of stubborn stains, dampen a cloth with a mix of 50% water and denatured alcohol or with special products.
After cleaning, dry the appliance thoroughly.

WARNINGS

- Never use abrasive products, benzene or trichloroethane.

NOTES

008074132

Strebel Ltd
1f Albany Park Industrial Estate,
Frimley Road, Camberley,
Surrey, GU16 7PB

Tel: 01276 685422
Fax: 01276 685405

Email: info@strebel.co.uk
Web: www.strebel.co.uk

CE

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